

The Accessory

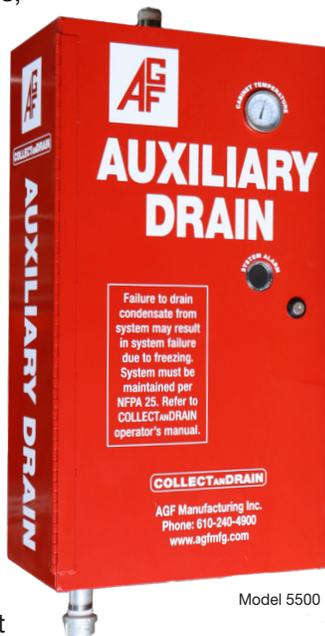
Issue 4, 2020  NEWSLETTER

Self-Maintaining and Automatic Auxiliary Drains with Freeze Protection

The COLLECT_{AND}DRAIN family of products are auxiliary low point drains, also known as drum drips, in several configurations to meet and exceed the sections of NFPA 13 and NFPA 25 addressing drainage in dry and pre-action sprinkler systems. AGF is excited to introduce two new heated cabinets: a self-maintaining model and a fully automatic model.

All the Benefits of the 5400, Plus More!

Like the Model 5400 series, the new models house traditionally configured condensation collectors (drum drips) with a float switch to monitor condensation accumulation levels inside an insulated and heated cabinet. The easily mounted, lockable steel cabinet is finished in a high visible, red powder coat that includes appropriate signage. The heater utilizes an integral thermostat that operates only when needed, reducing energy use while maintaining a temperature safely above freezing. In addition to their operational features, the new Model 5450 and 5500, like the 5400, also include an externally mounted thermometer that monitors internal cabinet temperatures and a TEST button to confirm audible alarm and red LED warning light functionality for localized and/or fire control panel notification of required attention.



Model 5500

Model 5450 – Self-Maintaining Auxiliary Drain

Model 5450 incorporates a unique feature designed to prevent the auxiliary drain from filling beyond the safety level of the cabinet by automatically shedding condensation from the drum drip in smaller amounts. After a specified level of condensation is collected in the auxiliary drain, additional accumulation will spill into a drain trap also housed in the cabinet that is designed to allow this excess condensation to safely and automatically drain out from the system without tripping the dry valve.

Model 5500 – Automatic Auxiliary Drain

Model 5500 incorporates motorized ball valves in place of standard ball valves at the inlet and outlet of a traditional drum drip style auxiliary drain and a programmed logic controller (PLC) to facilitate remotely automated draining. When the 5500 goes into “alarm” it can be set up to react in one of three different ways:

- Push a local button on the cabinet to initiate the emptying cycle
- Remotely initiate the emptying cycle (if wired to a fire control panel or building automation system)
- Fully automatic mode - Model 5500 initiates the emptying cycle automatically

To learn more about the new COLLECT_{AND}DRAIN Model 5450 or 5500, visit www.agfmfg.com 

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How to Offer a Better 5-Year Obstruction Investigation And Differentiate Yourself in a Crowded Marketplace

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With the increased emphasis on 5-year internal pipe inspections, one might be left to wonder when it became a requirement. Well, the requirement has been lurking in NFPA 25, the Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, for over 20 years but became clearly defined in the 2002 edition. Most insurance companies now require 5-year internal pipe inspections as a condition of their coverage. Some have denied claims for damage done by system-related issues if a building owner can't prove that the system has been maintained correctly and internally inspected every 5 years.



Internal Pipe Corrosion

NOTE: This article is not intended to be a complete review of system inspection, testing and maintenance requirements, or obstruction investigations, it is recommended that contractors providing these services be fully briefed and familiar with the current applicable edition of NFPA 25 for the location being inspected.

Let's start with a summary review of the verbiage found in NFPA 25 through the years regarding Obstruction

Investigation, specifically the 1998 and 2002 editions because of a substantive change between these two editions.

NFPA 25, 1998 Edition Obstruction Investigation

The 1998 edition of NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, addresses Obstruction Investigation in Chapter 10 and starts with the following:

10-1 General This chapter provides the minimum requirements for conducting investigations of fire protection system piping for possible sources of materials that can cause pipe blockage.

10-2.1* To ensure that the piping remains clear of all obstructive foreign matter, an obstruction investigation shall be conducted for system or yard main piping wherever any of the following conditions exist:

Section 10-2.1* continues to list 12 conditions that trigger the requirement to do an internal investigation. And it's in Section 10-2.2* that we find the first and only reference in Chapter 10 of NFPA 25 (1998) to a 5-year internal investigation. Based on how this section is written, a reasonable interpretation of section 10-2.2* is that only if one or more of the dozen conditions identified in 10-2.1* was previously found would it be necessary to start and (continue every 5 years) an internal piping investigation on that specific system.

NFPA 25, 2002 Edition Clearly Defines Inspection

NFPA 25 published the next edition in 2002. Obstruction Investigation was moved to chapter 13, and the wording in 13.1 is unchanged from 10-1 of the 1998 edition. The big change from 1998 to 2002 is found in a newly worded section 13.2.1, which states:

13.2.1 An investigation of piping and branch line conditions shall be conducted every 5 years by opening a flushing connection at the end of one main and by removing a sprinkler toward the end of one branch line for the purpose of investigating for the presence of foreign organic and inorganic material.

Section 13.2.2*, like the previous section 10-2.1*, lists now 14 conditions that trigger an internal investigation, and section 13.2.3.1, like the previous section 10-2.2*, requires

that an internal pipe inspection be done every 5 years if any of the listed conditions manifest themselves. However, it's reasonable to say that sections 13.2.2* and 13.2.3.1 are included to add information and clarity because 13.2.1 makes it very clearly understood that with or without the conditions list in 13.2.2* an internal investigation "shall be conducted every 5 years."

Inspection Here to Stay Since 2008 Edition

The 2008 edition of NFPA 25 moved Obstruction Investigation to chapter 14, and it stayed in chapter 14 in the 2011 and 2017 editions. For the 2017 edition, the chapter title was changed from "Obstruction Investigation" to "Internal Piping Condition and Obstruction Investigation," and the wording of section 14.2.1.1 now reads "shall be conducted at a minimum of every 5 years."

Since this requirement has remained in the NFPA 25 Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems for close to 20 years and multiple cycles, the industry is obviously convinced that it's reasonable and beneficial.

Obstruction Investigation Can Lead to More Obstructions

A recent addition to NFPA 13 the Standard for the Installation of Sprinkler Systems (2016 edition) is the requirement that air vents be included on all wet systems in order to help reduce internal pipe corrosion. This addition was the result of long-term studies that determined that the combination of new water, fresh air (loaded with oxygen), and steel pipe promotes internal pipe corrosion, increasing the risk of obstructions and system failure.

When a system is installed, emptied for maintenance, or drained for an internal inspection, the piping network becomes filled with ambient air prior to filling with water. As water fills the system the air becomes trapped, resulting in air pockets in high spots and/or an air void along the top of horizontal pipe runs. The interface between the oxygen, water, and steel pipe results in a chemical reaction that produces particles of iron oxide (rust) that accumulate and can lead to obstructions and leaks.

This destructive interaction continues until all the oxygen in the system is consumed by the iron in the pipe walls. The more trapped air in the system, the longer oxygen takes to be consumed, and the greater the damage to the internal pipe wall surface. These studies determined that venting trapped air out of a wet sprinkler system effectively and economically reduces this internal corrosion activity and the byproducts that create obstructions and lead to system failures.

Unfortunately, draining and re-filling the system for an obstruction investigation without venting the air when the system is refilled results in creating conditions inside the pipe that promote corrosion and the creation of obstructions.

Improve Your Inspection with Air Vent Installation

When you empty a system to do a 5-year Obstruction Investigation, rather than restarting the destructive process described above, do your customer a favor and suggest the addition of air vents to their system.

A system that wasn't designed to have air vents might not include the perfect location for one, but current code realizes it's impossible, even in a new system designed with air vents, to get all the trapped air out of the system. According to studies, the elimination of any amount of air is beneficial.

Using NFPA 13 (2016) as a guide, 7.1.5 states that a single air vent shall be provided for each wet pipe system utilizing metallic pipe, and 8.16.6 states that either a manual (minimum 1/2") valve, automatic air vent, or other approved means, shall

be located near a high point to remove air from the system. Code recommends that air vents should be installed where they will be the most effective such as off the top of a horizontal pipe near the high point. Purpose-built, inexpensive 1/2" sprinkler system manual air vent valves are currently available and can be easily added to existing systems to vent air when the system is being filled. For a proactive and increased level of air elimination, automatic air vent valves are recommended. For existing systems, automatic air vent/end cap assemblies are an easy fast option designed to make retrofitting an automatic air vent onto a system as simple as changing an end cap.

Summary

The 5-year internal inspection is an opportunity to give your customer more than the information their insurance company requires. By recommending the installation of air vents during the inspection, you demonstrate to your customer your interest in safeguarding their building occupants, protecting against building damage and saving them money by reducing corrosion activity, possible obstruction creation, and increasing the life expectancy of their system. As sprinkler professionals, our goals should always be to provide building owners with the best system possible, and if we can lower a building owner's total cost of ownership by helping to make their system last longer, everyone wins. 



Model 7910MAV and Model 7900AAV

New Website COMING SOON!

www.agfmfg.com will have a new look with...

- Easier Navigation
- Better Structured Product Information
- Easier Access to Spec and Technical Drawings
- On-Demand Product Training
- And More!

Our email addresses will also update with the new website. Keep an eye out for that soon! 



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AGFUniversity

AGFU Remote Training Available for ICC or NICET Credits for Groups of 15+.

AGFUniversity is offering free remote training for ICC or NICET credits. For groups of 15+, we can schedule a custom webinar on topics like air vents and corrosion, freeze protection, facility fire sprinkler system maintenance tips, and more. Webinars can be a quick way to brush up on your AGF product knowledge and receive CEU credits.



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